

WHAT IS CLAIM IS:

1. A touch measurement system for measuring a workpiece, comprising:
 - a touch probe for detecting touching of the workpiece by a touch probe stylus and including at least one sender for emitting an infra-red light in response to detection of the touching; and
 - a receiving unit including a housing having a window permeable to an infra-red light and provided with means for shielding an interior of the housing from electro-magnetic interferences, an infra-red light receiver located in the housing interior for receiving the infra-red light emitted by the sender of the touch probe, and a unit likewise located in the housing interior for processing the infra-red light received by the receiver.
2. A touch measurement system according to claim 1, wherein the shielding means is formed as an electrically conducting coating permeable to the infra-red light..
3. A touch measurement system according to claim 2, wherein the coating is provided on an inner side of the window.

4. A touch measurement system according to claim 1, wherein the housing further comprises a base body connected with a reference potential, and wherein the shielding means is electrically connected with the base body.

5. A touch measurement system according to claim 3, wherein the housing has a base body connected with a reference potential and having a circumferential mounting flange, wherein the window has an attachment flange connectable with the mounting flange of the base body for connecting the window with the base body, and wherein the coating extends over an inner end surface of the window attachment flange, whereby the coating becomes electrically connected with the base body in an assembled condition of the window with the base body.

6. A touch measurement system according to claim 4, wherein the base body has a mounting flange, wherein the window has an attachment flange connectable with the mounting flange of the base body for connecting the window with the base body, and wherein the shielding means is formed as an electrically conducting coating permeable to the infra-red light and provided on the inner side of the window and on an inner end surface of the window

attachment flange, whereby the coating becomes electrically connected with the base body in an assembled condition of the window with the base body.

7. A touch measurement system according to claim 1, wherein the processing unit comprises an amplifying element.
8. A touch measurement system according to claim 1, wherein the receiving unit comprises a plurality of infra-red light receivers arranged in the interior of the housing and jointly connected to the processing unit for forming a trigger signal.
9. A touch measurement system according to claim 8, wherein infra-red light receivers of the plurality of infra-red light receivers are connected parallel to each other.
10. A touch measurement system according to claim 1, wherein the receiving unit further comprises at least one sender located in the interior of the housing for emitting infra-red light through the housing window, and wherein the touch probe comprises at least one receiver for receiving the infra-red light emitted by the sender of the receiving unit and located in an interior of the touch probe.

11. A touch measurement system according to claim 10, wherein the touch probe comprises a window permeable to an infra-red light and located in front of the touch probe receiver for protecting the touch probe interior from electro-magnetic interferences.
12. A touch measurement system according to claim 11, wherein the touch probe window covers the touch probe sender.